

PATENT COOPERATION TREATY

PCT

INTERNATIONAL-TYPE SEARCH REPORT

(PCT Article 15.5)

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| National application No. 0004245-7 | Country or Office of filing SE | Applicant's or agent's file reference 00410-SE |
| Filing date (day/month/year) 20 November 2000 | (Earliest) Priority Date (day/month/year) | |
| Applicant Pharmacia AB | | |
| Date of request for international-type search 20 November 2000 | International-type search request No. SE 00/01472 | |

This international-type search report has been prepared by this International Searching Authority and is transmitted to the applicant.

This international-type search report consists of a total of 6 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Certain claims were found unsearchable (See Box I).

2. Unity of invention is lacking (See Box II).

3. The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international-type search was carried out on the basis of the sequence listing

- filed with the international application.
- furnished by the applicant separately from the international application,
 - but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
 - transcribed by this Authority.

INTERNATIONAL-TYPE SEARCH REPORTSearch request No.
ITS/SE00/01472**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international-type search report has not been established in respect of certain claims for the following reasons:

1. Claims No.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims No.: **38-47**
because they relate to parts of the national application that do not comply with the prescribed requirements to such an extent that no meaningful international-type search can be carried out, specifically:

see next sheet

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international-type search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international-type search report covers only those claims for which fees were paid, specifically claims No.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international-type search report is restricted to the invention first mentioned in the claims, it is covered by claims No.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

INTERNATIONAL-TYPE SEARCH REPORT

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| ITS No. SE00/01472 |
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Supplemental B x

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of:

Claims 38-47 relate to methods of treatment of the human or animal body by surgery or by therapy/ diagnostic methods practised on the human or animal body/Rule 39.1.(iv). Nevertheless, a search has been executed for these claims. The search has been based on the alleged effects of the compounds/compositions.

1
INTERNATIONAL-TYPE SEARCH REPORT

Search request No.

SE 00/01472

A. CLASSIFICATION OF SUBJECT MATTER

C07D 241/18, 241/20, 405/12, 213/82, 213/60, 213/64, 213/74, A61K 031/497,
 IPC7: 31/445, 31/4427, A61P 25/00, A61P 25/18, A61P 13/00, A61P 25/04
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C07D, A61K, A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | J. Med. Chem., Volume 39, 1996, Malgorzata Dukat et al, "Structure-Activity Relationships for the Binding of Arylpiperazines and Arylbiganides at 5-HT3 Serotonin Receptors", page 4017 - page 4026, j -- | 1-37 |
| X | EP 0462638 A1 (AKZO N.V.), 27 December 1991 (27.12.91), CAPLUS-STN, RN 139722-61-5, 139722-62-6, 139722-75-1 -- | 1-37 |
| X | EP 1023898 A1 (ADIR ET COMPAGNIE), 2 August 2000 (02.08.00), j -- | 1-37 |

 Further documents are listed in the continuation of Box C. See patent family annex.

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| * Special categories of cited documents: | |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "E" earlier document but published on or after the international filing date | "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "I" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "O" document referring to an oral disclosure, use, exhibition or other means | "&" document member of the same patent family |

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| Date of the actual completion of the international-type search | Date of mailing of the international-type search report |
| 31 August 2001 | 2001-09-05 |

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INTERNATIONAL-TYPE SEARCH REPORT

Search request No.

SE 00/01472

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| A | WO 9911619 A1 (MERCK SHARP & DOHME LIMITED), 11 March 1999 (11.03.99), CAPLUS-STN, RN 221282-09-3 -- | 1-37 |
| A | WO 9411363 A1 (ASAHI KASEI KOGYO KABUSHIKI KAISHA), 26 May 1994 (26.05.94), CAPLUS-STN, RN 118708-88-6, 163613-49-8, 163613-50-1 -- | 1-37 |
| A | J. Heterocyclic Chem., Volume 34, 1997, Gregory M. Shutske et al, "Synthesis of Some Piperazinylpyrazolo(3,4-b)pyridines as Selective Serotonin Re-uptake Inhibitors", page 789 - page 795, CAPLUS-STN, RN 193481-65-1 -- | 1-37 |
| A | Neuroscience & Biobehavioral Reviews, Volume 15, 1991, R.J. Rodgers et al, "Differential Effects of Novel Ligands for 5-HT Receptor Subtypes on Nonopioid Defensive Analgesia in Male Mice", page 489 - page 495, RN 109028-10-6, 124756-23-6, 64022-27-1, 85273-95-6, 87051-43-2, CAPLUS-STN -- | 1-37 |
| A | Psychopharmacology, Volume 99, 1989, Herbert Y. Meltzer, "Clinical studies on the mechanism of action of clozapine: the dopamine-serotonin hypothesis of schizophrenia" page 18 - page 27 -- | 1-37 |
| A | Biol Psychiatry, Volume 31, 1992, Hong Shick Lee et al, "Effect of the Serotonin Agonist, MK-212, on Body Temperature in Schizophrenia" page 460 - page 470 -- | 1-37 |

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| A | Journal of Medicinal Chemistry, Volume 21, No 6, 1978, William C. Lumma, Jr. et al, "Piperazinylpyrazines with Central Serotoninmimetic Activity", page 536 - page 542, syntheses | 1-37 |
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| A | Patent Abstracts of Japan, abstract of JP 7-300474 A (asahi chem ind co ltd), 14 November 1995 (14.11.95), abstract | 1-37 |
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| A | WO 9842712 A1 (SYNTHELABO), 1 October 1998 (01.10.98), CAPLUS-STN, RN 214045-90-6 | 1-37 |
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| A | WO 0017163 A1 (YAMANOUCHI PHARMACEUTICAL CO., LTD.), 30 March 2000 (30.03.00), Formel I | 1-37 |
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| A | Neuroscientist, Volume 6, No 4, 2000, Bryan L. Roth et al, "The Multiplicity of Serotonin Receptors: Uselessly Diverse Molecules or an Embarrassment of Riches", page 252 - page 262, table 1 | 1-37 |
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INTERNATIONAL-TYPE SEARCH REPORT

Information on patent family members

Search request No.

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SE 00/01472

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INTERNATIONAL-TYPE SEARCH REPORT

Information on patent family members

02/08/01

Search request No.

SE 00/01472

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